REMARKS

The Examiner has objected to the drawings as failing to provide a view in which a a pair of radiative apertures differ in diameter by at least a factor of two. In response, a proposed correction to Figure 13 is herewith submitted for the Examiner's approval. In the corrected figure, the aperture in plate 180 is shown as half the diameter of the aperture in plate 200. The Specification at page 10, lines 8-9, states that "[p]lates 200 and 190 and 180 [sic] contained apertures 180 mm in diameter, plates 180 and 170 contained apertures 90 mm in diameter . . ." The first reference to plate 180 in the quoted passage is an obvious typographical error and is being deleted in the current amendment to the Specification. Accordingly, it is submitted that no new matter is introduced by the amendment to the Specification or by the amendment to the drawing.

The Examiner has rejected the claims as obvious over Rammos. Rammos is cited as disclosing all features recited at least in claim 1, except for the feature of apertures differing in diameter by at least a factor of two. The Examiner points out in this regard that a change in size is generally regarded as being within the level of ordinary skill in the art, and that Rammos does teach apertures having different bandwidths in order to increase the bandwidth.

As Applicants have previously argued, Rammos teaches only that a slight difference in diameter may advantageously increase the bandwidth. This would be advantageous, for example, in an antenna intended to operate in a single frequency band, because the resulting improvement in bandwidth would help the antenna response to span a substantial portion of the operating frequency band. Thus, for example, Rammos refers to an "about constant gain" achieved over a "very significant bandwidth" of 12.5% on the prototype with 4 X 4 elements. (See the English translation of Rammos in the previously submitted Appendix at page 8, lines 1-2.)

What Applicants have contributed to the art is the discovery that the difference in diameter need not be "slight" in order to bring about an advantageous band broadening. That is, a stack of apertured plates may include apertures tuned to widely differing frequency bands, even bands whose nominal frequencies differ by a factor of two or more, and there may still be beneficial broadening. There may be enough, in fact, for the resulting antenna to be used in a multiple-band base station.

Accordingly, claim 1 has been amended to further recite that the apertures are driven by at least two striplines, and

> the striplines are arranged to be driven by a multiple-band radiofrequency source for a wireless base station, such that each stripline is driven in a distinct frequency band of wireless operation, and one said band of operation has a nominal frequency at least twice that of the other.

Support is found in the Specification at least as indicated below:

At least two striplines: Page 6, lines 2-4.

Multiple-band radiofrequency source for a wireless base station: Page 1, lines 10-14.

Each stripline is driven in a distinct frequency band: Page 5, line 30, to page 6, line 2.

One band of operation has a nominal frequency at least twice that of the other: Page 6, lines 1-2. (The 1800 and 2100 MHz bands have nominal frequencies at least twice that of the 900 MHz band.)

Accordingly, it is respectfully submitted that no new matter is introduced by the claim amendment.

As noted, Rammos teaches only that by slightly varying the aperture diameters, some broadening of the bandwidth may be achieved. Such a practice would be advantageous for improving single-band performance. However, this teaching leads away from substantial differences in diameter, such as differences by a factor of two or more. Applicants, on the other hand, have discovered that even very large variations in diameter may contribute to advantageous band broadening. It is Applicants' discovery, therefore, and not any teaching or suggestion of Rammos, that leads the stacked aperture structure in multiple-band antennas. Accordingly, it is respectfully submitted that claim 1, together with all claims depending therefrom, is patentable over Rammos under the standard of 35 USC § 103.

In regard to the separate rejection of claim 8 over Rammos in view of Hall, it is noted that Hall is cited only for the disclosure of a vertical radiator. Accordingly, it is respectfully submitted for the reasons set out above that claim 8 is patentable over the combination of Rammos and Hall under the standard of 35 USC § 103.

Having responded to all points of objection and rejection, Applicants respectfully solicit the Examiner to reconsider and to allow all of the currently pending claims.

Respectfully submitted,

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By

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Att.
1 Replacement Sheet of Drawings

Date: Nov. 3, 2005

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

Amendments to the Drawings:

The attached replacement sheet of drawings includes changes to Fig. 13 to overcome Examiner's objections. This sheet, which includes Figs. 13 and 14, replaces the previous replacement sheet.

Attachment:
1 Replacement Sheet (8/10)